

DOC/ FOLIO DATE



SAFE STEERING

COMMITTEE MTG

4TH QUARTER 1981



## AGENDA

- o TECHNICAL STATUS
- o AWARD FEE EVALUATION
- o SCHEDULE AND FUNDING
- o ADMINISTRATIVE STATUS
  - CHANGE ORDER SUMMARY
  - ☐ STAFFING PROFILE
  - PROJECT PLAN/FINANCIAL PLAN
  - MANAGEMENT CHANGES
- o PROBLEMS
- o SUMMARY

STAT



## TECHNICAL STATUS

- o BLOCK 1 PDR (NOV-DEC) - 3 PHASES
  - OBJECTIVES:
    - . REQUIREMENTS TRACEABILITY TO DESIGN
    - . INTEGRITY/VALIDITY OF DESIGN TO MEET PERFORMANCE
    - . IDENTIFY SOFTWARE TO UNIT LEVEL
  - PHASE I (16-20 NOVEMBER)
    - . DEMONSTRATION OF REQUIREMENTS ACCOUNTABILITY
    - . ALLOCATION OF BASELINE (B-5 SPECIFICATIONS)
    - . 12 DOCUMENTS
  - PHASE II (30 NOVEMBER - 4 DECEMBER)
    - . SYSTEM CONCEPT & DESIGN
    - . 12 DOCUMENTS
  - PHASE III (14-18 DECEMBER)
    - . DETAILED DESIGN TO UNIT LEVEL (PRELIMINARY C-5s)
    - . VALIDATION OF PROJECT PLAN/FINANCIAL PLAN
    - . 18 DOCUMENTS



## PHASE I DOCUMENTS

- o REQUIREMENTS TRACEABILITY MTRX. (RTM)
- o REQUIREMENTS BASELINE DESCRIPTION
- o EMP EXTERNAL MSG. FORMAT SPEC.
- o S/W DEVELOPMENT SPEC. (B5) FOR APS
- o S/W DEVELOPMENT SPEC. (B5) FOR EMP
- o S/W DEVELOPMENT SPEC. (B5) FOR U/I
- o S/W DEVELOPMENT SPEC. (B5) FOR DMS
- o S/W DEVELOPMENT SPEC. (B5) FOR SYS. SERV.
- o SUBSYSTEM DEVELOPMENT SPEC. (B1) FOR WBC
- o H/W DEVELOPMENT SPEC. (B2) FOR PIU
- o H/W DEVELOPMENT SPEC. (B2) FOR BIU
- o H/W DEVELOPMENT SPEC. (B2) FOR DATA BUS



## PHASE II DOCUMENTS

- o RAM ANALYSIS DOCUMENT UPDATE
- o PROCESS DESIGN DOCUMENT
- o DATA BASE DEFINITION DOCUMENT
- o ICD MAIRIX
- o S/W INTEGRATION AND TEST PLAN
- o H/W CONFIGURATION DOCUMENT
- o WBC DRAWING TREE
- o WBC PROTOCOL SPEC.
- o WBC ICD
- o SAFE C SYSTEM TEST PLAN
- o SAFE C SYSTEM DEMO. PLAN
- o WBC INTEGRATION AND TEST PLAN



### PHASE III DOCUMENTS

- o S/W INTERFACE DOCUMENT
- o DOCUMENT (SPECIFICATION) TREE
- o S/W PRODUCT SPEC. (C5) FOR APS
- o S/W PRODUCT SPEC. (C5) FOR EMP
- o S/W PRODUCT SPEC. (C5) FOR U/I
- o S/W PRODUCT SPEC. (C5) FOR DMS
- o S/W PRODUCT SPEC. (C5) FOR SYS. SERV.
- o H/W PRODUCT SPEC. (C2) FOR PIU
- o H/W PRODUCT SPEC. (C2) FOR BIU
- o H/W PRODUCT SPEC. (C2) FOR DATA BUS
- o SAFE C SITE PLAN
- o COMMERCIAL EQUIPMENT PLANS/PROCEDURES
- o SAFE PROJECT PLAN



PHASE III DOCUMENTS (CONTD)

- o SAFE FINANCIAL PLAN
- o END ITEM ACCEPTANCE PLAN
- o INCREMENT 2.5 USER LANGUAGE DEFINITION
- o SAFE C USERS MANUAL
- o PROGRAMMERS GUIDE



## PHASE I SUMMARY

- o ALL DOCUMENTATION DELIVERED
- o WELL ORGANIZED - WELL PRESENTED - WORK SESSION  
ATMOSPHERE POSITIVE
- o SOME AREAS GOOD (EMP/COMM)
- o CONTENTS OF APPLICATIONS/DATA MANAGEMENT
  - ADEQUATE BUT WITH DISCREPANCIES
- o SYSTEM SERVICES/USER INTERFACE - MAJOR  
DEFICIENCIES
- o CSPO ESTIMATES MARCH 1982 TO CLEAN UP PDR  
DEFICIENCIES





## PHASE 1 SUMMARY

### 7 MAJOR AREAS OF CONCERN

- o RTM IS INSUFFICIENT TO PERFORM TRACEABILITY
  - 15 DEC. ☐ FIX DATE
- o NO SINGLE DOCUMENT CAPTURES SYSTEM DESIGN
  - 3 MONTHS EFFORT TO FIX
- o DOCUMENTATION LACKS DETAIL (IN SOME AREAS), CONSISTENCY AND COMPLETENESS
  - END OF MARCH IS CSPO ESTIMATE FOR ADEQUATE DOCUMENTATION
- o REQUIREMENTS DEFINITION IN SOME AREAS ARE STILL ONGOING
  - END OF MARCH 1982
- o ☐ PERT CHARTS INDICATED CODING PRIOR TO GOVERNMENT-APPROVED CDR
  - UNACCEPTABLE TO GOVERNMENT



## PHASE I SUMMARY

### 7 MAJOR AREAS OF CONCERN (CONTD)

- o REALLOCATION OF USERS TO UTSs FOR LOAD BALANCING  
NOT IN DESIGN
  - CSPO WORKING WITH CONTRACTOR - NO IDENTIFIED  
FIX DATE
- o DESIGN ALGORITHMS INDICATE POTENTIAL SERIOUS  
PERFORMANCE PROBLEMS
  - WILL REVIEW IN DETAIL DURING PHASE III FOR  
COMPLETE ASSESSMENT



## TECHNICAL STATUS (CONTD)

- o CONVERSION REQUIREMENTS SPEC
  - READY TO BE BASELINED; HOLDING FOR RESOLUTION OF DPR 221
- o TERMINAL
  - PERSISTENT FIRMWARE PROBLEM - FEBRUARY 1982
  - TWO SETS OF PROMs DELIVERED FOR TESTING; KNOWN PROBLEMS
  - NEED BASELINE DOCUMENTATION; CONFIRMATION OF TERMINAL'S CAPABILITIES
    - FEBRUARY 1982
- o SAFE USER LANGUAGE SPEC
  - COMMANDS & FUNCTIONS FOR INITIAL CIA DELIVERY - 15 JAN 82
  - SYNTAX FOR BLOCK 1 - 1 FEB 82
  - BLOCK 1 SUL SPEC - 1 MAR 82
- o DEVELOPMENT FACILITY - 5 - 6900's; 1 - 7821; 50 DELTA DATA
- o CIA INITIAL DELIVERY - 6900; UNDERGOING ACCEPTANCE TEST



TECHNICAL STATUS (CONTD)

- o COMMUNICATIONS (CDR SCHEDULED FOR APRIL 1982)
  - PROCESSOR INTERFACE UNIT (PIU) - THRU-PUT PROBLEM
  - ICC - ON SCHEDULE
  - CABLE TESTING - ON SCHEDULE/NEARING COMPLETION
  - BUS INTERFACE UNIT - UNDER CONTROL; COSTS STABILIZING UNDER \$3K
  - CRYPTO MODULE - ON SCHEDULE; INITIAL TESTING AT DF COMPLETED



AWARD FEE SCORING

	1	2	3	4	5
o TECHNICAL PERFORMANCE	67	76	81	71	33
o MANAGEMENT	75	71	70	65	35
o SCHEDULE	95	90	77	65	33
o SECURITY	<u>98</u>	<u>90</u>	<u>90</u>	<u>90</u>	<u>90</u>
AGGREGATE	75.0	78.0	78.0	69.0	36.5



## SUMMARY OF 5TH PERIOD PERFORMANCE

- o PREVIOUS PROBLEMS PERSISTED
- o MANAGEMENT FOCUS ON GAINING TECHNICAL CONTROL
- o NO CURRENT PROJECT PLAN/FINANCIAL PLAN
- o STAFFING LEVEL INAPPROPRIATE TO STATE OF DEVELOPMENT
- o FUNDS EXPENDED NOT COMMENSURATE WITH TECHNICAL ACHIEVEMENT
- o TECHNICAL STATUS DIFFICULT TO JUDGE WITH REASONABLE CERTAINTY
- o MANAGEMENT AND ORGANIZATIONAL CHANGES - POSITIVE STEP



## SCHEDULE (BLOCK-I)

- o INITIAL CIA DELIVERY (INCREMENT 2.5)
  - ☐ MANAGEMENT COMMITMENT - 31 DECEMBER 1982
  - INITIAL PERT (NEW PROJECT PLAN) - 15 MARCH 1983
  - CSPO PROGNOSIS - 15 JUNE 1983 (EARLIER POSSIBLE BUT UNLIKELY)
- o FULL BLOCK-I
  - OCTOBER 1983 (VICE 31 DECEMBER 1982)
- o INITIAL PERT CRITICAL DESIGN REVIEW (CDR)
  - MARCH 1982

☐ FY 82 REDUCTION IN STAFF WILL NOT INCREASE RISK OF ABOVE DELIVERIES



SCHEDULE (BLOCKS 2-4)

- o BLOCK 3 - IN PROGRESS REVIEW (IPR) - AUGUST 1982
  - DBMS/CONVERSION - DIA UNIQUE DESIGN ACTIVITY  
CONTINUATION
- o SYSTEM PDR - OCTOBER 1982
- o BLOCK 3 PDR - MARCH 1983
- o BLOCK 3 IOC - SEPTEMBER 1984
- o BLOCK 4 - FEBRUARY 1985 OUTSIDE CURRENT CONTRACT
  - ADDITIONAL \$2.0 MILLION





FUNDING PICTURE/ISSUES

STAT

	<u>80&amp;81</u>	<u>82</u>	<u>83</u>	<u>84</u>	<u>TOTAL</u>
<input type="checkbox"/> ACTUAL/PLAN	30.4	26.0	23.9	14	95
OTHER	<u>2.3</u>	<u>3.9</u>	<u>3.7</u>	<u>6.1</u>	<u>16</u>
	32.7	29.9	27.6	20.1	110.3
CSPD BUDGET/ DCI GUIDANCE	<u>32.7</u>	<u>28.7</u>	<u>22.3</u>	<u>14.3</u>	<u>98.0</u>
DIFFERENCE	0	-1.2	-5.3	-5.8	-12.3

STAT

OTHER = CRYPTO, PRINTERS/TERMINALS, SITE PREPARATION (CIA ONLY),  
TECH SUPPORT ☐



## FUNDING PICTURE ISSUES

- o CURRENT BURN RATE JEOPARDIZING FUTURE BLOCKS
- o FY 82 - CONTRACTOR DIRECTED BY CSPO TO STAY WITHIN GOVERNMENT BUDGET \$24.7M
  - CONTRACTOR REDUCING STAFF BY 50 PEOPLE - EFFECTIVE 1 DEC 81
  - FURTHER REDUCTIONS OF 40-50 BEING EVALUATED TO STAY WITHIN BUDGET
- o BOTH CIA AND DIA HAVE ENHANCED LEVEL PACKAGES
  - \$2.8 MILLION - FY 83 (\$2.0M - CIA; \$.8M - DIA)
  - \$4.6 MILLION - FY 84 (\$2.8M - CIA; \$1.8M - DIA)
- o OPTIONS AND ALTERNATIVES FOR FY 83 AND FY 84 WILL BE DEVELOPED BY CSPO UPON RECEIPT OF PROJECT PLAN/FINANCIAL PLAN

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## ADMINISTRATIVE STATUS

- o CHANGE ORDER SUMMARY
  - TOTAL PROPOSED 30 - 25 NEGOTIATED/CLOSED
    - . 13 NO COST / 12 WITH COST
    - . NET CHANGE TO CONTRACT: \$-3.9 MILLION (\$75.6M VERSUS \$71.7M)
    - . INCLUDES REMOVAL OF \$8.1 MILLION FOR TERMINALS/PRINTERS AND \$4.2 MILLION IN INCREASES
  - CHANGE ORDERS 17, 18, 19, 23, 29 STILL OUTSTANDING
    - . 17 AND 19 (DESIGN REVIEWS/ASPEC CHANGES) WITHDRAWN FOR COST FIDELITY
    - . 18, 23, 29 (SECURITY RELATED) - NOT PROPOSED



STAFFING LEVELS (ADMIN. CONTD)

STAT



- STAFFED ABOVE PREVIOUS PLAN
  - TECHNICAL ACHIEVEMENT/PROGRESS LAGGING PLAN
- PEAKED EARLIER AND HIGHER
- o MANAGEMENT INFRASTRUCTURE CAUSES OVERLAPPING OF  
FUNCTIONS/RESPONSIBILITIES

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PROJECT PLAN/FINANCIAL PLAN (ADMIN. CONTD)

- o LATE - NOW MID-DECEMBER VICE END OF OCTOBER 1981,  
THEN 20 NOV 81
- o CONTRACTOR FINALLY ACHIEVING DETAILED PLANNING NECESSARY  
FOR CONTROL & MANAGEMENT OF SOFTWARE DEVELOPMENT
- o PERT STILL DOES NOT CONTAIN COMMUNICATIONS AND EXTERNAL  
MESSAGE PROCESSING
  - CSPO DIRECTED THEY BE PERT-ED



MANAGEMENT CHANGES (ADMIN CONTD)

o MANAGEMENT CHANGES APPEAR TO BE TAKING EFFECT

- [ ] SENIOR SYSTEM ENGINEER; ENTIRE RESPONSIBILITY FOR DEVELOPMENT; STRONG DECISIVE LEADER
- [ ] SENIOR SOFTWARE ENGINEER; ENTIRE RESPONSIBILITY FOR SOFTWARE DEVELOPMENT - EXPERIENCED, STABLE, EFFECTIVE; IS PULLING SOFTWARE DEVELOPMENT TOGETHER
- [ ] SENIOR COMMUNICATIONS ENGINEER; ENTIRE RESPONSIBILITY FOR COMM DEVELOPMENT - CAPABLE, EXPERIENCED; HAS BROUGHT COMM DEVELOPMENT UNDER CONTROL





## SUMMARY

- o UNIT-LEVEL TECHNICAL REVIEW IN PROGRESS
  - UNEVEN BUT A BASIS FOR PROGRESS
  - TOP DOWN DESIGN NEEDS UPDATING
  - SELECTIVE GO-AHEADS TO BE GIVEN
- o STAFFING HAS BEEN OUT OF CONTROL
  - REDUCTION IN PROCESS
  - WILL NOT EFFECT SCHEDULE
- o MANAGEMENT CHANGES ARE TAKING EFFECT
  - ORGANIZATIONAL CHANGES REDUCING OVERHEAD
  - SENIOR MANAGEMENT COMMITTED TO SCHEDULE
  - ☐ CORPORATE STRUCTURE WILL NOT EFFECT
- o COST
  - INCREASE OF \$12-\$15M LIKELY
  - CAS 418 PROBABLY CAUSE AN INCREASE
- o PROGNOSIS
  - PROBLEMS BUT PROGRESS (REF. MGMT. CHANGES & GOV'T MORE DIRECT INTERCESSION)



NEAR TERM ACTIVITY

- o BLOCK 1 PDR SUMMARY IN JANUARY
- o JANUARY TRW VISITS
- o CO-CHAIRMAN MEETING FOR D-DIA / DCI MEETING